

IN THE CLAIMS:

Please amend claims 1-3, 6-8, 11-14, 16, 18, and 20-44 as follows. Please add new claims 45-48 as follows.

1. (Currently Amended) ~~A communication method in a radio system, the method~~ comprising:

associating each data unit of a logical channel with a logical channel-specific sequence number without a priority identification number in a medium access control entity of a transmitter.

2. (Currently Amended) The method of claim 1, further comprising:
receiving, in ~~the~~ a network infrastructure, data units of at least one logical channel associated with sequence numbers in ~~the~~ a user terminal; and

arranging, in a network element of the network infrastructure, the data units of each logical channel in order of the sequence numbers associated with the data units.

3. (Currently Amended) The method of claim 1, further comprising performing at least one retransmission including at least one data unit of a logical channel from ~~the~~ a user terminal to the network infrastructure over ~~the~~ an air interface.

4. (Previously Presented) The method of claim 36, further comprising:

associating each data unit of one transmission time interval with one sequence number; and

associating data units in successive transmission time intervals with successive sequence numbers.

5. (Previously Presented) The method of claim 36, further comprising:

associating data units of one transmission time interval with successive sequence numbers; and

associating data units in successive transmission time intervals with successive sequence numbers.

6. (Currently Amended) The method of claim 1, further comprising:

mapping medium access control-e flows from a medium access control-d entity to transport channels in a medium access control-e entity of ~~the~~a user terminal; and

associating data units with sequence numbers common to the medium access control-d entity and the medium access-e entity.

7. (Currently Amended) The method of claim 1, further comprising transmitting the data units using an enhanced uplink dedicated channel.

8. (Currently Amended) The method of claim 36, further comprising:

associating each data unit of ~~logical~~ a logical channel to be ~~send withing~~ sent within one transmission time interval with one sequence number in a medium access control entity, in a radio link control entity, or in an entity between the radio link control entity and the medium access control entity of the transmitter.

9. (Previously Presented) The method of claim 8, further comprising arranging the data units of each logical channel in the radio link control entity, in the medium access control entity, or in the entity between the radio link control entity and the medium access control entity of a receiver.

10. (Original) The method of claim 8, further comprising arranging the data units in a radio network controller.

11. (Currently Amended) ~~A communication method in a radio system, the method comprising:~~

receiving, in ~~the~~ a network infrastructure, data units of at least one logical channel, each data unit sent within one transmission time interval being associated with one logical channel-specific sequence numbers without a priority identification number in the a user terminal; and

arranging the data units of each logical channel in a network element of the network infrastructure.

12. (Currently Amended) The method of claim 36, further comprising:
associating each data unit of a logical channel in one transmission time interval with one sequence number by giving a common medium access control-e header to medium access control-d data units having ~~the~~a same logical channel number and ~~the~~a same sequence number; and
associating data units in successive transmission time intervals with successive sequence numbers in a transmitter.

13. (Currently Amended) The method of claim 12, further comprising:
receiving, in ~~the~~a network infrastructure, data units of at least one logical channel associated with sequence numbers in ~~the~~a user terminal; and
arranging, in the network infrastructure, the data units in order of the sequence numbers associated with the data units.

14. (Currently Amended) The method of claim 12, further comprising performing at least one retransmission including at least one data unit of a logical channel from ~~the~~a user terminal to ~~the~~a network infrastructure over ~~the~~a air interface.

15. (Previously Presented) The method of claim 12, further comprising:

arranging the data units in order of the sequence numbers associated with the data units in a medium access control-e entity in a receiver.

16. (Currently Amended) A computer program product of a radio system, the computer program product being embodied on a computer readable medium and comprising program code for controlling a processor to execute a method, the method comprising:

associating each data unit of ~~a logical~~ a logical channel with a logical channel-specific sequence number without a priority identification number in a medium access control entity of a transmitter.

17. (Previously Presented) The computer program product of claim 16, wherein the method comprises associating each data unit of a logical channel with sequence numbers in a medium access control entity of a user terminal.

18. (Currently Amended) The computer program product of claim 16, wherein in a medium access control entity of ~~the~~ a network entity of ~~the~~ a network element of ~~the~~ a network infrastructure, the data units of each logical channel transmitted from ~~the~~ a user terminal are arranged in order of the sequence numbers associated with the data units.

19. (Previously Presented) The computer program product of claim 38, wherein data units of each logical channel are associated with sequence numbers in a medium access control entity, in a radio link control entity, or at an entity between the radio link control entity and the medium access control entity of the user terminal.

20. (Currently Amended) The computer program product of claim 16, the method further comprising at least one retransmission including at least one data unit of a logical channel between ~~the~~ a user terminal and ~~the~~ a network infrastructure over ~~the~~ an air interface.

21. (Currently Amended) The computer program product of claim 38,
~~wherein the method comprises~~ the method further comprising:
associating each data unit, of a logical channel in one transmission time interval,
with one sequence number; and
associating data units in successive transmission time intervals with successive
sequence numbers in a medium access control entity of a transmitter.

22. (Currently Amended) The computer program product of claim 21, wherein the data units transmitted from the user terminal are arranged, in ~~the~~ a network infrastructure, in order of the sequence numbers associated with the data units.

23. (Currently Amended) The computer program product of claim 21, wherein the method further comprises performing at least one retransmission including at least one data unit of a logical channel between ~~the~~a user terminal ~~an~~the ~~and~~a network infrastructure over ~~the~~an air interface.

24. (Currently Amended) A computer program product of a radio system, the computer program product being embodied on a computer readable medium and comprising program code for controlling a processor to execute a method, the method comprising:

arranging data units of each logical channel, in a network element of ~~the~~a network infrastructure, in order of the sequence numbers, each data unit of a logical channel being associated with a logical channel-specific sequence number without a priority identification number in a medium access control entity of a transmitter.

25. (Currently Amended) A network element ~~of a radio system, wherein the network element is a part of the network infrastructure; comprising:~~
~~the network element is~~ a receiver configured to receive data units of at least one logical channel from a user terminal, each data unit of a logical channel sent being associated with a logical channel-specific sequence number without a priority identification number in a medium access control entity of a user terminal; and

~~the network element is an~~ arranger configured to arrange the data units of each logical channel in order according to the sequence numbers associated with the data units, wherein the network element is a part of a network structure.

26. (Currently Amended) The network element of claim 42, wherein the ~~radio network controller~~ arranger is configured to arrange the data units of each logical channel in order of the sequence numbers in a medium access control entity, in a radio link control entity, or at an entity between a radio link control entity and a medium access control entity.

27. (Currently Amended) A radio network controller ~~of a radio system, wherein the radio network controller is configured~~ comprising:

a receiver configured to receive data units of at least one logical channel from a user terminal, each data unit of a logical channel sent within on transmission time interval being associated with a logical channel-specific sequence numbers without a priority identification number ~~in the~~ a user terminal; and

an arranger configured to arrange the data units of each logical channel in order according to the sequence numbers associated with the data units.

28. (Currently Amended) A user terminal ~~of a radio system comprising a network infrastructure,~~ comprising:

~~wherein a user terminal is configured~~ an associating unit configured to associate each data unit of a logical channel with a logical channel-specific sequence number without a priority identification number in a medium access control entity.

29. (Currently Amended) The user terminal of claim 40, wherein the ~~user terminal~~ associating unit is configured to associate data units of each logical channel with sequence numbers in a medium access control entity, in a radio link control entity, or at an entity between a radio link control entity and a medium access control entity of a user terminal.

30. (Currently Amended) The user terminal of claim 29, ~~wherein the user terminal~~ is further comprising a transmitter configured to transmit the data units to the network infrastructure and to perform at least one retransmission as a response to a request from ~~the~~ a network infrastructure over an air interface, the retransmission including at least one data unit of a logical channel.

31. (Currently Amended) A ~~radio system~~, comprising:
a transmitter and a medium access control ~~entity~~ entity in the transmitter,
wherein the medium access control entity is configured to associate each data unit of a logical channel with a logical channel-specific sequence number without a priority identification number.

32. (Currently Amended) A ~~radio~~-system, comprising:
a network infrastructure; and
at least one user terminal communicating with ~~the~~ a network infrastructure over an air interface, wherein
a user terminal is configured to associate each data unit of a logical channel to be sent within one transmission time interval with one logical channel-specific sequence numbers without a priority identification number;
the network infrastructure is configured to receive the data units of at least one logical channel associated with sequence numbers; and
the network infrastructure is configured to arrange the data units of each logical channel in order of the sequence numbers.

33. (Currently Amended) The ~~radio~~-system of claim 32,
wherein a user terminal is configured to associate each data unit of a logical channel in one transmission time interval with one sequence number and the user terminal is configured to associate data units in successive transmission time intervals with successive sequence numbers.

34. (Currently Amended) An apparatus, ~~wherein the apparatus is~~ comprising:

an associating unit configured to associate each data unit of a logical channel with a logical channel-specific sequence number without a priority identification number ~~in a medium access control entity.~~

35. (Currently Amended) An apparatus, ~~wherein the apparatus is comprising:~~
an associating unit configured to associate each data unit of a logical channel to be sent within one transmission time interval with one logical channel-specific sequence number without a priority identification number.

36. (Currently Amended) A ~~communication method, the method comprising:~~
associating each data unit of a logical channel to be sent within one transmission time interval with one logical channel-specific sequence number without a priority identification number in a transmitter.

37. (Currently Amended) The method of claim 36, further comprising:
associating each data unit of a logical channel with sequence numbers in a transmitter such that a sequence number is incremented at most by one per one incremented transmission time interval.

38. (Currently Amended) A computer program product of a radio system, the computer program product being embodied on a computer readable medium and

comprising program code for controlling a processor to execute a method, the method comprising:

associating each data unit of a logical channel to be sent within one transmission time interval with one logical channel-specific sequence number without a priority identification number in a transmitter.

39. (Currently Amended) A ~~radio system~~, comprising:

a transmitter, ~~the transmitter being~~ configured to associate each data unit of a logical channel to be sent within one transmission time interval with one logical channel-specific sequence number without a priority identification number.

40. (Currently Amended) A user terminal, ~~of a radio system~~ comprising:

a network infrastructure[[,]]; and

~~wherein a user terminal is~~ an associating unit configured to associate each data unit of a logical channel to be sent within one transmission time interval with one logical channel-specific sequence number without a priority identification number.

41. (Currently Amended) An apparatus, ~~wherein~~ comprising:

~~the apparatus is~~ a receiver configured to receive data units of at least one logical channel from a transmitter, each data unit of a logical channel sent within one

transmission time interval being associated with one logical channel-specific sequence number without a priority identification number in the transmitter; and

~~the apparatus is an arranger~~ configured to arrange the data units of each logical channel in order according to the sequence numbers associated with the data units.

42. (Currently Amended) A network element ~~of a radio system, wherein the network element is part of the network infrastructure; comprising:~~
~~the network element is a receiver~~ configured to receive data units of at least one logical channel from a transmitter, each data unit of a logical channel sent within one transmission time interval being associated with one logical channel-specific sequence number in the transmitter; and

~~the network element is an arranger~~ configured to arrange the data units of each logical channel in order according to the sequence numbers associated with the data units,
wherein the network element is part of the network infrastructure.

43. (Currently Amended) An apparatus, ~~wherein comprising:~~
~~the apparatus is a receiver~~ configured to receive data units of at least one logical channel from a transmitter, each data unit of a logical channel being associated with a logical channel-specific sequence number without a priority identification number in the transmitter; and

~~the apparatus is an arranger~~ configured to arrange the data units of each logical channel in order according to the sequence numbers associated with the data units ~~in a medium access control entity.~~

44. (Currently Amended) A computer program product of a radio system, the computer program product being embodied on a computer readable medium and comprising program code for controlling a processor to execute a method, the method comprising:

arranging data units of each logical channel, in a network element of a network infrastructure, in order of the sequence numbers, each data unit of a logical channel sent within one transmission time interval being associated with a logical channel-specific sequence number without a priority identification number in the a transmitter.

45. (New) The apparatus of claim 34, wherein the associating unit is configured is configured to associate data units of each logical channel with sequence numbers in a medium access control entity, in a radio link control entity, or at an entity between a radio link control entity and a medium access control entity of a user terminal.

46. (New) The apparatus of claim 35, wherein the associating unit is configured to associate data units of each logical channel with sequence numbers in a medium access

control entity, in a radio link control entity, or at an entity between a radio link control entity and a medium access control entity of a user terminal.

47. (New) The apparatus of claim 41, wherein the arranger is configured to arrange the data units of each logical channel in order of the sequence numbers in a medium access control entity, in a radio link control entity, or at an entity between a radio link control entity and a medium access control entity.

48. (New) The apparatus of claim 43, wherein the arranger is configured to arrange the data units of each logical channel in order of the sequence numbers in a medium access control entity, in a radio link control entity, or at an entity between a radio link control entity and a medium access control entity.